STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered " does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **SALTY DOG** *Agreement #:* **30-084602**

2. Name of applicant: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:
   Pacific Cascade Region
   PO Box 280
   Castle Rock, Washington 98611-0280
   Phone: (306) 577-2025
   Contact Person: Robert Johnson

4. Date checklist prepared: 02/26/2009

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* ***December 17, 2009***
   b. *Planned contract end date (but may be extended):* ***October 31, 2011***
   c. *Phasing:*

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale

   a. *Site preparation:* **Portions of the harvest unit may be piled and burned. Herbicide application may be utilized prior to hand planting of seedlings.**

   b. *Regeneration Method:* **Hand planting of conifer seedlings will take place following harvest operation.**

   c. *Vegetation Management:* **Site will be assessed for hand slashing or herbicide treatment for 3-7 years following harvest.**

   d. *Thinning:* **Pre-commercial and commercial thinning potential will be assessed in 12-15 years and 25-30 years, respectively.**

Roads: **Road maintenance assessments will be conducted annually and may include periodic ditch and culvert cleanout, and road grading as necessary to minimize erosion and failures.**

Rock Pits and/or Sale: **The rock pit may be utilized by other proposals located within the area.**

Other: **Firewood salvage of logging residue may occur following harvest.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:* ☐*temp* ☒*sediment* ☒*completed TMDL (total maximum daily load):* **Gee Creek and Columbia River. The most current information can be found on the Department of Ecology website, http://apps.ecy.wa.gov/wqawa2008/view.htm**
☐*Landscape plan:*
☐*Watershed analysis:*
☐*Interdisciplinary team (ID Team) report:*
☒*Road design plan:* **Road plan available at Pacific Cascade Region**
☒*Wildlife report:* **Biologist report available at Pacific Cascade Region**
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **Rock Pit plan available at Pacific Cascade Region**
☒*Other:* **Spotted owl habitat mapping, marbled murrelet reclassified habitat maps, Forest Practices Activity Maps, WAU map for rain-on-snow areas, Policy for Sustainable Forests 2006, State soil survey, DNR GIS databases, Habitat Conservation Plan (January 1997), HCP Checklist (attached), Slope Stability Checklist, Planning and Tracking Special Concerns Report and associated maps.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

No

10. List any government approvals or permits that will be needed for your proposal, if known.

☐*HPA* ☒*Burning permit* ☐*Shoreline permit* ☐*Incidental take permit* ☒*FPA # **2919850*** ☐*Other:*

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:* **Salty Dog timber sale is a three unit variable retention harvest that encompasses 87 harvest acres and 1 acre of harvestable right-of-way. The sale is located approximately 9 miles east of Woodland, Washington. Timber will be harvested using a combination of cable and ground based harvest systems. A rock pit located on the PH-1000 Road, Sec. 24, T6N, R1E, will be utilized for this proposal.**

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Unit	Proposal	RMZ/WMZ	Unstable Slope	Existing Road	Sale	Leave Tree	Harvest
	Acres	Acres	Acres	Acres	Acres	Clump Acres	Acres
	gross			*within unit*			
Unit 1a	17	2	0	0	15	2	13
Unit 1b	69	11	0	0	58	2	56
Unit 2	23	5	0	0	18	0	18
ROW	1				1		1
Totals	**110**	**18**	**0**	**0**	**92**	**4**	**88**

Preharvest and harvest:

The proposal is dominated by Douglas-fir and red alder with minor components of western redcedar, western hemlock, and bitter cherry. The stand to be harvested is approximately 80 years old. The harvest method to be employed with this sale is a variable retention harvest.

Overall unit objectives:
The primary objective is to provide revenue to the respective trusts, 03 (common school), 07 (capitol grant) and 10 (scientific school), while maintaining and/or improving water quality, and fish and wildlife habitat.

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		2,125	1.0	0
Reconstruction				
Abandonment				
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)				

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description:

Unit 1 is located in T6N R1E S24 NE ¼
Unit 2 is located in T6N R2E S19 NW ¼

b. Distance and direction from nearest town (include road names):

Aproximately 9 miles to the west is Woodland, Washington. From Woodland, Go east on Lewis River Road (SR 503), left turn on Little Kalama River Road, turn right on Aho Carson Road. Drive approximately 2.2 miles to proposal area.

c. Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")

WAU Name	WAU / Sub-basin Acres	Proposal Acres
CATHLAPOTL	55723	
Sub-basin 1	3066	110

13. Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)

The total proposal area is 110 acres (87 net sale acres, 18 RMZ acres- see A.11.a). There will be a total of three harvest units included in this proposal.

On a landscape level, approximately 60-75 percent of the area will be managed for timber production while the remaining will be in riparian areas, leave tree clumps, unstable slope areas, or special habitat types. These practices will ensure that the future forests in this landscape contain much more diversity and structure than the current forests, and that there will be sufficient habitat to support wildlife species.

Cathlapotl WAU	WAU Acres	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE
DNR MANAGED LAND	5800	924	259	388 (estimated)	200
PRIVATE OWNERSHIP	49147	3609 (estimated)	827 (estimated)	Unknown	Unknown
TOTAL	55723	4533	1086	NA	NA

Although the associated sub-basin drainages in this proposal are dominated by timber production zoning, private residences frequent the valley bottoms a few miles north and east of the Lewis River. Several private residences occur adjacent to the main watercourses along the lower portions of the associated WAU, specifically along the Lewis River.

This proposal will have relatively little known impact to this river due to the 100 foot riparian management zones (RMZs) remaining on type 4 streams and the 30 foot equipment limitation zones (ELZs) on type 5 streams. It can be assumed that slight warming of waters may occur on type 5 streams, but this should diminish as the replanted trees grow larger and provide shade. Although the Cathlapotl WAU contains 303d listed water courses, this proposal will have no impact on the 303d listed streams. There are several sections of Gee Creek noted as 303d due to temperature. Gee Creek drains into the Columbia River below the Lewis River Confluence. As this sale is located on a different stream system and is located 12-14 miles southwest of the proposal, there will be no effects on the temperature of Gee Creek. Also, there is a section of 303d listed water for TDML on the Columbia River. This is located upstream of the confluence of the Lewis River, so this proposal will have no effect on this area of the Columbia River. This proposal will not further compromise and/or exacerbate these unacceptable levels of fecal coliform or temperatures within these water courses.

Roads being built in association with this proposal were analyzed, designed and constructed to minimize affects on the environment. To reduce the risk of potential erosion, road cut banks will be re-vegetated prior to the onset of wet weather to prevent sediment delivery and maintain soil stability.

The retained trees associated with this proposal will continue to evapotranspire, and the interception function of the canopy will be maintained, thereby avoiding a potential increase in runoff and subsurface flow. Retained trees, shrubs, and other vegetation will continue to protect the underlying mineral soils and provide wildlife habitat.

The strategy of retaining 8 trees per acre (greater than 10 inches Diameter at Breast Height) in the unit should provide legacy elements for recruitment of future snags, coarse woody debris, multi-layered stands, and large diameter trees. In combination, these features will provide elements of older forest habitat characteristics within the new plantation.

After harvest, tree seedlings will be planted to compliment natural regeneration that is expected to occur. Though disturbed, native plants such as grasses, ferns, salal, salmonberry, and huckleberry will remain on site after logging and persist within the western hemlock zone.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☐Hilly, ☒Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Cathlapotl WAU is diverse in terrain extending from the river bottomlands located in the western portion of the WAU surrounding the confluence of the Lewis and Columbia rivers, to the steep mountainous terrain typical of the Cascade foothills in the eastern portions of the WAU. Elevations in the WAU range from approximately 200'(Woodland) to 2400' (Davis Peak). Precipitation in the WAU ranges from 40" in the bottomlands to near 60" in the higher elevation foothills.

Potentially unstable slopes are found within the WAU mostly in steep headwalls, hollows, and on steep, stream adjacent side slopes in the headwater reaches of the main streams. Some headwater areas may be considered convergent headwalls as defined by the Forest Practice rules. Both subdued and distinct deep-seated landslides are found along the more subtle valley slopes of the main stem of the Lewis River and locally within the steeper uplands in the eastern portion of the WAU. Evidence of shallow and deep-seated landslides is evident both on the ground and in the aerial photos.

Vegetation in the WAU is dominated by mixed hardwood species in the bottomlands and conifer species in the foothills. Douglas-fir is the dominant conifer with components of western hemlock and minor components of western redcedar.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The timber sale area is similar to the general description of the WAU above. Although the general representation of this harvest unit is a conifer dominated stand with red alder existing in the RMZ.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope within the unit is approximently 75% and is located within the RMZ areas. The remainder of the unit has slopes that are 65% or less.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture or Soil Complex Name	% Slope	Acres	Mass Wasting Potential	Erosion Potential
6094	PHEENEY-BEIGLE-COMPLEX	30-65	50	Low	No Data
9403	GRAVELLY SILT LOAM	30-65	20	MEDIUM	HIGH
6097	PHEENEY-ROCK OUTCROP-COMPLEX	30-65	19	Low	No Data
6093	PHEENEY-BEIGLE-COMPLEX	50-30	3	Insignifict	No Data

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

There are minor surface indications of unstable slopes within and adjacent to units . These include over-steepened stream banks with exposed mineral soils, and steep slopes between 60-65%. Most stream banks are outside the harvest area or within RMZs.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of deep-seated failures found in the sub-basins that appear to be natural failures. These failures are of historic nature. These areas are isolated to steep headwalls and hollows generally associated with unstable features.

Potentially unstable slopes are found within the sub basins mostly occur in steep headwalls, hollows, and on steep, stream adjacent side slopes in the headwater reaches of the main streams. Some headwater areas may be considered convergent headwalls as defined by the Forest Practice rules. Both subdued and distinct deep-seated landslides are found along the more subtle valley slopes of the main stem of the Lewis River. Evidence of shallow and deep-seated landslides is evident both on the ground and in the aerial photos.

3) *Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?*
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics: Associated management activity:*

A debris slide/limited debris flow occurred in the sub-basin in 1999. The combination of disrupted subsurface flow, persistent rains and channeling of ditch water led to a slope failure below a landing at the toe slope of a previously unrecognized, dormant, deep-seated landslide along the lower reach of Colvin Creek.

There is also evidence suggesting that at least one debris flow initiated from a steep hollow area at the head of a tributary stream along the upper reach of Colvin Creek as root strength deteriorated post harvest. There was a small historical slide observed on Johnson Creek during an electrofishing trip this past year possibly due to harvest.

4)Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites.*

There are areas within this proposal that are similar to where slope failures have occurred in the past. These areas have been identified on the ground and have been bounded out of the unit (RMZ).

5. Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

Slope stability protection measures:

- **Roads have been located to avoid any identified unstable areas.**
- **Ground based equipment will be restricted to slopes less than 35%.**
- **Lead end suspension will be required for cable yarding areas, if this yarding system is employed.**
- **Headwall areas or over steepened associated stream areas have been bounded out as no harvest areas.**

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **2** *Approx. acreage new landings:* **5** *Fill source:* **native material/waste from road building**

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, some incidental erosion may occur as a result of this proposal, but should be confined to the associated roads and harvest area. Incidental erosion may occur within the sale boundaries but should be confined to the area of disturbance by vegetation left on-site and erosion control measures.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

<3% of the proposal will be in permanent rocked running surface.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Protection measures to reduce erosion associated with roads:

- **Seasonal timing restrictions will be used to minimize road construction activities during wet weather conditions.**
- **Soils exposed during road construction, including any waste areas, will be treated with erosion control measures, such as re-vegetation.**
- **Roads will be maintained as needed to control water runoff and avoid delivery of sediment to live water.**
- **Drainage structures will be properly installed and maintained.**
- **Sediment control measures will be used as necessary during active haul to prevent sediment delivery to water.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to prevent sediment delivery to water.**
- **Periodic maintenance and inspection of the road system to insure proper function**
- **Additionally, a larger leave island at the top of the type 5 headwall in Unit 1 - this large leave island leading up to the PH - 1000 will perpetually intercept sediment from this mainline road at the perennial initiation point (PIP) upstream of Johnson Creek**

Protection measures to reduce erosion associated with active logging operation:

- **Ground yarding will be restricted to slopes less than 35%.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**
- **Skid trails will be water barred as necessary to minimize sediment delivery to live water.**
- **Ground based equipment will operate on a mat of logging slash.**
- **Erosion control and reduction measures are addressed in the sale layout and harvest system design.**
- **RMZs will function to reduce sediment delivery to streams.**
- **Harvested areas will be replanted with coniferous tree species to re-establish root bound soils.**
- **The proposal will be harvested utilizing cable harvesting methods with lead end suspension.**

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minor amounts of engine exhaust from logging equipment and dust from vehicle traffic and logging equipment.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

a) Downstream water bodies:

All streams associated with the proposal are tributary to the Lewis River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Unnamed Type 4	**Type 4**	**6**	**100' No Harvest RMZ**
Unnamed Type 5	**Type 5**	**5**	**30' Equipment Limitation Zone**

c)List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

Prevailing winds and topographic protection provide for a minimal blowdown potential. As such, no wind buffers were added to type 4 RMZ's. Leave trees were placed around portions of type 5 streams.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐*No* ☒*Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Falling and yarding of timber will occur within 200 feet of described waters; falling away from streams will be required. To achieve desired yarding deflection, it will be necessary to suspend cables above the buffer zones of the type 4 streams. Lead end suspension of logs will be required during yarding operations along type 5 streams.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☒*No* ☐*Yes, type and volume:*

7) Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting? What is the potential for eroded material to enter surface water?

The potential for surface and/or mass erosion does exist within the sub basins, in headwalls with steep slopes and/or where unstable soils are present. Most of these sites occur near watercourses with deeply incised channels and steep headwall areas. A storm event could result in eroded material entering surface water.

8) Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?
☐*No* ☒*Yes, describe changes and possible causes:*

Low elevation heavy snowfall accumulation followed by extreme rainfall events increases the potential for mass wasting and above average stream flows, both of which have a direct impact on stream channel characteristics.

9) Could this proposal affect water quality based on the answers to the questions 1-8 above?

☐*No* ☒*Yes, explain:*

This proposal may cause some minimal increase in sedimentation as a result of road construction and harvest operations. Buffered riparian areas will help preserve natural stream and water quality. In addition harvest and road building activities will be monitored and potentially restricted during wet weather conditions. With the mitigating measures to be implemented, this proposal is not expected to contribute material sediment to surface waters. Also, the large leave island placed on the type 5 stream should prevent increased sedimentation. See questions B.1.d.5 and B.1.h

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*
Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

There are approximately 5 miles of road per square mile in the WAU and sub-basin.

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.*
Approximate percent of sub-basin(s):

886 acres (2%) of the Cathlapotl WAU is located in the ROS zone.
776 acres (25%) of the Cathlapotl #1 sub-basin is located in the ROS zone.

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

In sub-basin #1 482 acres (63%) of the area within the ROS zone is hydrologically mature. (this is based on DNR ownership only, although only approximately 4 acres of the sub-basin within ROS is located in private holdings.)
The percentage of Hydrologically mature forest within the ROS zone, within the WAU is unkown due to private ownership, however it could be estimated to be similar or slightly less than the sub-basin.

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

During the winters of 1996 and 2009, 100-year flood events occurred. The rainstorms set rainfall and flood level records in Southwest Washington and Northwestern Oregon. The events caused many shallow mass-wasting events. Many stream channels were affected by these flood events. The full extent of these events is not known. Many channels were altered during these events, due to high stream flows with accompanying sediment loads and possibly large woody debris delivery.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing/duration/amount of peak flow; flow rates may increase slightly during low flow periods during the first decade of the new stand. Leave trees scattered and clumped throughout the units (a minimum of eight trees per acre) help maintain water quality and reduce peak flow. In addition, no harvest RMZs are in place on type 4 waters.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

HCP procedure PR-14-040-060 aides in protecting sub-basins by extending hydrologic maturity.

Protection measures:

- **As per policy, no harvest units will be greater than 100 Acres.**
- **Leave trees, and RMZ's will continue to contribute toward hydrologic capacity (evapotranspiration).**
- **Roads will be maintained as needed to control water runoff and avoid delivery of sediment to live water.**
- **Drainage structures will be properly installed and maintained.**
- **Sediment control measures will be used as necessary during active haul to prevent sediment delivery to water.**
- **Timing restrictions or temporary road shutdown will be used as necessary during active haul to prevent sediment delivery to water.**
- **Periodic maintenance and inspection of the road system to insure proper function.**
- **Ground yarding restrictions are prescribed to minimize soil impacts including compaction and rutting.**
- **Skid trails will be water barred as necessary to minimize sediment delivery to live water.**
- **Allowing for green-up of adjacent stands.**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

Not anticipated. Road cross drains may increase ground water recharge directly below culvert outlets.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the

general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. No lubricants will be disposed of on-site. Also, minimal logging slash may enter surface water. If any significant hazardous materials spills occur Department of Ecology will immediately be notified.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) *Note protection measures, if any.*

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Not anticipated. Road cross drains may increase ground water recharge directly below culvert outlets.

2) Could waste materials enter ground or surface waters? If so, generally describe.

Minor amounts of oil, fuel, and other lubricants may inadvertently be discharged to the ground as a result of heavy equipment use or mechanical failure. Also, minimal logging slash may enter surface water.

a) *Note protection measures, if any.*

If any significant hazardous materials spills occur Department of Ecology will immediately be notified.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

See surface water, ground water, and water runoff sections above, questions B-1-h, B-3-a-1-c, and B-3-a-16.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☐maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☐*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☐*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☐*other:*
☒grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Approximetly 4500 MBF of the conifer and hardwood volume will be removed within the regeneration harvest unit excluding riparian areas and designated leave tree areas.

1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")*

To the north of the sale area there is an 10 and 18 year old Douglas-fir plantation. To the South of the sale area is a 6 year old Douglas-fir plantation. To the East of the sale area is a 20 year old Douglas-fir plantation, and to the West is a 30 year old Douglas–fir stand.

2) *Retention tree plan:*

Clumps of approximately 40 trees and smaller are dispersed across the harvest area, and two larger leave tree areas were created to protect the headwaters of a type 5 drainage between unit #1a and #1b, and two large rock outcropings on the East side of unit #1a.

c. List threatened or endangered *plant* species known to be on or near the site.

None found in database search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Retention tree clumps are identified across the harvest area. Some clumps were selected for their species diversity of native flora. These clumps will provide a local seed source for native overstory and understory species. Some natural regeneration of native species will occur on site after harvest. Wildlife trees were left in areas to protect snags, large down logs, advanced regeneration, type 5 streams, and potentially unstable slopes. Trees with defects such as split or broken tops, dominant crowns, large diameters and large limbs were favored as leave trees to enhance wildlife potential. Old growth/ legacy trees were identified and retained individually and in leave tree clumps.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☐eagle, ☒songbirds, ☐*pigeon*, ☒other: **turkey vulture**
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species).*

None noted in TRAX runs from department's P&T data base.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River flyway, which is part of the Pacific Northwest forests. Many Neo-tropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan. Migratory waterfowl also use the Columbia River flyway; the area for this proposal is not generally the type of area used for nesting or feeding by migratory waterfowl.

d. Proposed measures to preserve or enhance wildlife, if any:

This activity conforms to the 2006 Policy for Sustainable Forests, the 1997 Habitat Conservation Plan and Forest Practices rules and regulations. Species known to benefit from edge effect should continue to thrive in the years following harvest. Riparian buffers were established on type 4 water resources. Buffers will be left to further protect and enhance stream bank integrity, water quality and overall riparian function. Enhancing wildlife with a large leave island around cliffs and a larger type 5 leave island to establish current and future connectivity to Johnson and the Dee Creek watersheds.

1) Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.
Species /Habitat: **General Habitat**
Protection Measures: **Riparian Management Zones (RMZ's) and wildlife trees (including damaged, defective, dying and dead trees still standing) will serve as potential habitat for several bird and wildlife species.**

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None. Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal health hazards due to operating heavy equipment and the minor spillage of fuel and lubricating oils are always present with this type of operation. Contractual clauses require operators to use established safety standards. The risk of forest fire may increase for approximately two years following harvesting due to logging slash.

1) Describe special emergency services that might be required.

Department of Natural Resources, private and rural fire department fire suppression resources; emergency medical or air ambulance for personnel injuries. Hazardous material spills may require Department of Ecology and/or county assistance.

2) Proposed measures to reduce or control environmental health hazards, if any:

Fire equipment will be required on-site during closed fire season.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

3) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Heavy equipment, chain saws, yarding whistles and trucks will produce noise during periods of operation.

4) Proposed measures to reduce or control noise impacts, if any:

Noise associated with harvest and road construction should not be audible anywhere but in the immediate vicinity of the proposal. Noise from hauling is an historic activity in the area and should not be above present customary levels.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

- **Timber Production, Forest management**
- **Rock from rock pits may be sold to other forestland owners for forest road maintenance.**

b. Has the site been used for agriculture? If so, describe.

No.

c. Describe any structures on the site.

None.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

Not Zoned.

f. What is the current comprehensive plan designation of the site?

Forest Land.

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No.

i. Approximately how many people would reside or work in the completed project?

None.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

These harvest units will be reforested with commercial species and retained as forestland.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Not applicable.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Does not apply.

c. Proposed measures to reduce or control housing impacts, if any:

Does not apply.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

Does not apply.

b. What views in the immediate vicinity would be altered or obstructed?

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒*No* ☐*Yes, viewing location:*

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒*No* ☐*Yes, scenic corridor name:*

3) *How will this proposal affect any views described in 1) or 2) above?*

Does not apply for this proposal.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

None.

c. What existing off-site sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Informal uses may include hunting, mountain biking and hiking.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Informal recreational activities may be temporarily interrupted during periods of operation on the site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None planned at this time. No permanent displacement of existing informal use will occur.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no objects or sites known to be on or next to this site.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None known.

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

In the event that any archaeological resources are encountered, ground disturbing activities would be halted and our Agency's Archaeologist will be contacted to survey the site and write a Site Protection Plan for the area.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The site is accessed via Lewis River Highway to Little Kalama River Road to Aho Carson Road to DNR forest roads.

1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*

No. Traffic from this operation will marginally increase noise, dust and vehicle density, which may temporarily result in a decrease in safety. Contractual clauses require the operator to use existing safety standards. Truck traffic from this individual operation should not increase the need for public road maintenance.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No. The nearest transit stop is approximately 9 miles away in the town of Woodland.

c. How many parking spaces would the completed project have? How many would the project eliminate?

None.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

Two new forest roads will be constructed and existing forest roads will be improved.

1) How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?

There will be no impact from this proposal.

d. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

e. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

There will be no additional vehicle trips generated by the completed project.

f. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Completed by: USAkaino NRSP 2 Date: 7-5-09
Title

Reviewed by: Robert W. Johnson PRODUCT SALES MANAGER Date: 7-5-09
Title